

LIST OF CLAIMS

Claims 1 - 25 Cancelled

Claims 26 - 50 New

26. (New) A method for producing a porous material which comprises;

- (i) partially curing a phenolic resin to a solid;
- (ii) grinding said solid to form resin particles;
- (iii) mixing said resin particles with particles of a secondary component to form a mixture;
- (iv) forming said mixture into a dough;
- (v) shaping said dough to obtain a shaped solid product; and
- (vi) sintering said shaped solid so as to produce a form-stable sintered product.

27. (New) The method according to Claim 26 in which said partially cured phenolic resin is a Novolak resin as herein described.

28. (New) The method according to Claim 26 including the step of forming a cage structure of said resin to retain said secondary component without substantially changing the porosity of said secondary component.

29. (New) The method according to Claim 26 in which said secondary component comprises at least one of the group comprising a carbon powder, an activated carbon powder, graphite, a metal, an inorganic oxide, a metal oxide, silicon, a carbide, an amorphous oxides a zeolite, a layered clays and silica.

30. (New) The method according to Claim 26 in which said secondary component is selected from the group comprising a silicon powder, a silicon monoxide powder, a mixture of carbon or silicon with silica, silicon carbide, a metal carbide, tungsten carbide and molybdenum carbide.

31. (New) The method according to Claim 26 in which said secondary component is a mesoporous activated carbon with a mean pore size in the 1-5nm range.

32. (New) The method according to Claim 26 which said secondary component is a mixture of a pore former and a partially cured phenolic resin.

33. (New) The method according to Claim 32 in which said pore former is selected from the group comprising ethylene glycol, 1,4-butylene glycol, diethylene glycol, triethylene glycol, gamma-butyrolactone, propylene carbonate, dimethylformamide, N-methyl-2-pyrrolidinone and monoethanolamine.

34. (New) The method according to Claim 26 in which said secondary component does not add to the porosity of the composite but serves to modify at least one of other physical properties of the composite.

35. (New) The method according to Claim 34 in which said one other physical property which is modified is selected from electrical conductivity, thermal capacity and magnetic susceptibility.

36. (New) The method as claimed in Claim 34 in which said secondary component is an electrically conducting material.

37. (New) The method according to Claim 34 in which said the secondary component is selected from graphite powder and metals.

38. (New) The method according to Claim 35 in which said secondary component is selected from copper, tungsten and aluminum.

39. (New) The method according to Claim 29 in which said secondary component is formed during the sintering process.

40. (New) The method according to Claim 29 in which said secondary component is a carbide formed during the sintering process.

41. (New) The method according to Claim 26 including the step of further activating said sintered material by treatment with steam or carbon dioxide.

42. (New) The method according to Claim 26 including the step of further treating said porous material by heating said porous material to temperatures above 1000°C.

43. (New) A porous sintered product which comprises a porous monolithic carbon structure which incorporates a secondary component selected from the group comprising carbon powder, activated carbon powder, graphite, metals, inorganic oxides, metal oxides, silicon, mesoporous carbon, amorphous oxides, zeolites, layered clays, silica, metal carbides, non-metallic carbides and mixtures thereof.

44. (New) A porous sintered product which comprises a porous monolithic carbon structure which incorporates a secondary component formed from a mixture of a pore former and a partially cured phenolic resin.

45. (New) The porous sintered product according to Claim 44 in which said pore former is selected from the group comprising ethylene glycol, 1,4-butylene glycol, diethylene glycol, triethylene glycol, gamma-butyrolactone, propylene carbonate, dimethylformamide, N-methyl-2-pyrrolidinone and monoethanolamine.

46. (New) The porous sintered product according to Claim 43 in which said secondary component does not add to the porosity of the composite but serves to modify at least one of other physical properties of the composite.


47. (New) The porous sintered product according to Claim 46 in which said at least one other physical property which is modified comprises electrical conductivity, thermal capacity and/or magnetic susceptibility.

48. (New) The porous sintered product according to Claim 47 in which said secondary component is selected from the group comprising a graphite powder and a metal.

49. (New) The porous sintered product according to Claim 47 in which said secondary component is selected from the group comprising copper, tungsten and aluminum.

50. (New) The porous sintered product according to Claim 43 which comprises a controlled resistivity porous carbon structure incorporating an electrically conducting oxide system as the secondary component.

Respectfully submitted,



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